



(11) (21) (C) **2,235,917**
(22) 1998/04/24
(43) 1998/07/19
(45) 1999/08/10

(72) CHAO, David YinKai, US

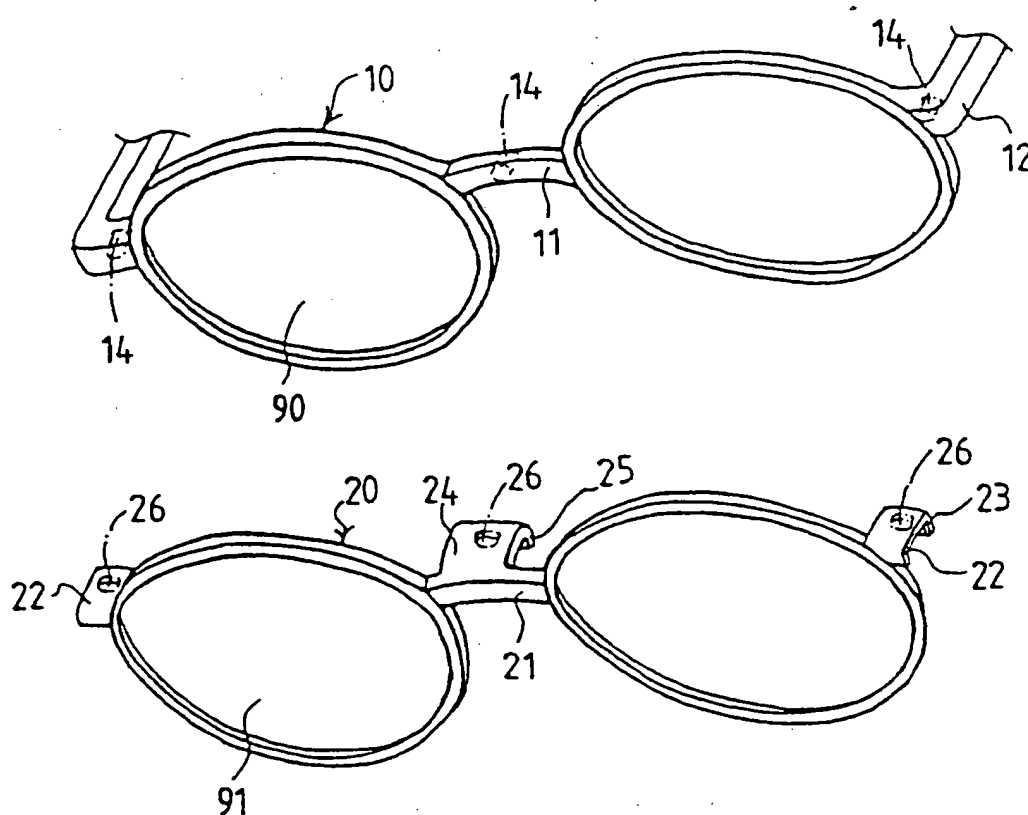
(73) CHAO, David YinKai, US

(51) Int. Cl. ⁶ G02C 9/00, G02C 7/08

(30) 1997/04/28 (847,711) US

(54) **LUNETTES COMBINÉES COMPRENANT UNE MONTURE
AUXILIAIRE**

(54) **EYEGGLASS COMBINATION HAVING AUXILIARY FRAME**



(57) Lunettes combinées constituées d'une monture principale comportant un pont et deux points de fixation latéraux. Une monture auxiliaire comprend un pont ainsi que deux rallonges latérales ayant chacune un rebord arrière pour s'engager avec le point de fixation et pour permettre que la monture auxiliaire soit fixée à la monture principale type. Les rebords arrière comprennent chacun un aimant permettant un engagement avec un autre aimant engagé dans les points de fixation, ou un engagement avec les points de fixation d'un matériau magnétique. Les aimants sont de préférence disposés latéralement.

(57) An eyeglass combination includes a primary frame having a bridge and two side studs. An auxiliary frame includes a bridge and two side extensions each having a rear flange for engaging with the stud and for allowing the auxiliary frame to be secured to typical primary frame. The rear flanges each includes a magnet for engaging with another magnet engaged in the studs or for engaging with the studs of magnetic material. The magnets are preferably disposed laterally.



ABSTRACT OF THE DISCLOSURE

An eyeglass combination includes a primary frame having a bridge and two side studs. An auxiliary frame includes a bridge and two side extensions each having a rear flange for engaging with the stud and for allowing the auxiliary frame to be secured to typical primary frame. The rear flanges each includes a magnet for engaging with another magnet engaged in the studs or for engaging with the studs of magnetic material. The magnets are preferably disposed laterally.

EYEGLOSS COMBINATION HAVING AUXILIARY FRAME

BACKGROUND OF THE INVENTION

5 1. Field of the Invention

The present invention relates to a pair of eyeglasses, and more particularly to a pair of eyeglasses having an auxiliary frame for supporting auxiliary lenses.

2. Description of the Prior Art

10 The closest prior art of which applicant is aware is U.S. Patent 5,568,207 to Chao. The primary frame are required to be engaged with magnets for actuating with the magnets engaged in the auxiliary frame, such that the auxiliary frame may not be attached to typical spectacle frame having no magnets therein.

The present invention has arisen to mitigate and/or obviate the afore-described disadvantages of the conventional auxiliary spectacle frames.

15 SUMMARY OF THE INVENTION

In accordance with one aspect of the present invention there is provided an eyeglass combination comprising: a primary frame including a first bridge and two sides each having a stud; and an auxiliary frame for disposing in front of the primary frame, the auxiliary frame including a second bridge and two sides each having an extension extended rearward
20 toward the primary frame and extended over one of the studs, each of the extensions including a rear end having a first flange extended downward; wherein each of the studs of the primary frame includes a magnetic material; each of the first flanges includes a magnet for engaging with the magnetic material of one stud and for securing the auxiliary frame to the primary frame; and when the auxiliary frame is coupled to the primary frame, the extensions can be supported by

the studs to prevent the auxiliary frame from moving downward relative to the primary frame; and the first flanges are located behind the studs to further secure the auxiliary frame to the primary frame, and to reduce the likelihood of the auxiliary frame from being disengaged from the primary frame if the auxiliary frame is being pulled forward relative to the primary frame.

5 Each of the studs of the primary frame may include a first magnet and each of the first flanges may include a second magnet for engaging with the first magnet of the stud and for securing the auxiliary frame to the primary frame.

Each of the first and the second magnets includes a first pole and a second pole disposed in front of the first pole.

10 The second bridge may include an arm extended over the first bridge of the primary frame, the arm including a rear end having a second flange extended downward for engaging with the first bridge and for securing the auxiliary frame to the primary frame.

 The first bridge of the primary frame may include a first magnet, the second flange including a second magnet for engaging with the first magnet of the first bridge and for
15 securing the auxiliary frame to the primary frame.

 In accordance with another aspect of the invention, there is provided an eyeglass device for coupling to a primary frame, the primary frame including a first bridge and two sides, each side of the primary frame having a stud, each stud including a magnetic material, the eyeglass device comprising: an auxiliary frame for disposing in front of the primary frame, the
20 auxiliary frame including a second bridge and two sides each having an extension extended rearward toward the primary frame and extended over one of the studs, each of the extensions including a rear end having a first flange extended downward; and wherein each of the first flanges includes a magnet for engaging with the magnetic material in each stud and for securing the auxiliary frame to the primary frame; and when the auxiliary frame is coupled to the primary

frame, the extensions can be supported by the studs to prevent the auxiliary frame from moving downward relative to the primary frame; and the first flanges are located behind the studs to further secure the auxiliary frame to the primary frame, and to reduce the likelihood of the auxiliary frame from being disengaged from the primary frame if the auxiliary frame is being
5 pulled forward relative to the primary frame.

In accordance with yet another aspect of the invention, there is provided an eyeglass device for coupling to a primary frame, the primary frame including a first bridge, the first bridge including a magnetic material, the eyeglass device comprising: an auxiliary frame including a second bridge, the second bridge having an arm extended rearward toward the
10 primary frame and extended over the first bridge, the arm including a rear end having a flange extended downward for engaging with the first bridge and for securing the auxiliary frame to the primary frame, the flange including a magnet for engaging with the magnetic material in the first bridge and for securing the auxiliary frame to the primary frame; wherein when the auxiliary frame is coupled to the primary frame, the arm can be supported by the first bridge to prevent
15 the auxiliary frame from moving downward relative to the primary frame; and the flange is located behind the first bridge to further secure the auxiliary frame to the primary frame, and to reduce the likelihood of the auxiliary frame from being disengaged from the primary frame if the auxiliary frame is being pulled forward relative to the primary frame.

Further features and advantages of the present invention will become apparent
20 from a careful reading of a detailed description provided hereinbelow, with appropriate reference to accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded view of an eyeglass combination having an auxiliary frame in accordance with the present invention;

5 FIG. 2 is a perspective view of the eyeglass combination; and

FIG. 3 is a cross sectional view taken along lines 3-3 of FIG. 2.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, and initially to FIGS. 1 and 2, an eyeglass combination in accordance with the present invention comprises a primary frame 10 for
10 supporting primary lenses 90 and including a bridge 11

formed in the middle and including two studs 12 formed in the side portions. The bridge 11 and the studs 12 each includes a magnet 14 disposed laterally having a pole (such as S as shown in FIG. 3) arranged in front
05 of the other (N in FIG. 3).

An auxiliary frame 20 for supporting auxiliary lenses 91 and for disposing in front of the primary frame includes a bridge 21 and two extensions 22 disposed in the side portions and extended rearward for
10 engaging over the bridge 11 and the studs 12 of the primary frame 10 respectively. The bridge 21 includes an arm 24 extended rearward. The extensions 22 and the arm 24 each includes a rear end having a flange 23, 25 dependent downward. The flanges 23, 25 each includes a
15 magnet 26 disposed laterally having a pole (S in FIG. 3) arranged in front of the other (N in FIG. 3) for allowing the S pole to engage with the N pole of the magnet 14 of the primary frame 10.

It is to be noted that the flanges 23, 25 of the
20 extensions 22 and of the arm 24 are extended downward for engaging with the studs 12 and the bridge 11 such that the flanges 23, 25 themselves form a hook means for securing the auxiliary frame 20 to the primary frame 10. In addition, the magnets 14, 26 are disposed
25 laterally such that the flanges 23, 25 may further be stably and solidly attracted and retained in place.

It is further to be noted that the flanges 23, 25

may also be used to hook to the typical eyeglasses having no magnets engaged therein, such that the auxiliary frame 20 may be attached to any of the typical eyeglasses. Particularly, when the typical
05 eyeglasses are made of metal or other magnetic materials, the magnets 26 of the auxiliary frame 20 may also be used for attracting the typical eyeglasses and may also be used for solidly securing the auxiliary frame to the typical eyeglasses.

10 It is also to be noted that with only the arm 24 and the magnet 26 therein, the auxiliary frame 20 may also be solidly secured to the primary frame 10. Without the arm 24 and without the magnets 26, the auxiliary frame 20 may also be secured to the primary
15 frame 10 by engaging the flanges 23 with the studs 12. The provision of the magnets 26 and 14 may further solidly secure the auxiliary frame 20 to the primary frame 10.

Accordingly, the eyeglass combination in
20 accordance with the present invention includes an auxiliary frame having a pair of extensions and/or an arm for engaging with the studs and/or the bridge of the primary frame, for allowing the auxiliary frame to be secured to various kinds of eyeglasses having no
25 magnets therein. In addition, the provision of the flanges 23, 25 may also be used for solidly securing the auxiliary frame to the primary frame 10.

Although this invention has been described with a certain degree of particularity, it is to be understood that the present disclosure has been made by way of example only and that numerous changes in the detailed
05 construction and the combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as hereinafter claimed.

CLAIMS

1. An eyeglass combination comprising:
 - a primary frame including a first bridge and two sides each having a stud; and
 - an auxiliary frame for disposing in front of the primary frame, the auxiliary frame including a second bridge and two sides each having an extension extended rearward toward the primary frame and extended over one of the studs, each of the extensions including a rear end having a first flange extended downward; wherein
 - each of said studs of said primary frame includes a magnetic material;
 - each of said first flanges includes a magnet for engaging with the magnetic material of one stud and for securing said auxiliary frame to said primary frame; and
 - when the auxiliary frame is coupled to the primary frame,
 - the extensions can be supported by the studs to prevent the auxiliary frame from moving downward relative to the primary frame; and
 - the first flanges are located behind the studs to further secure the auxiliary frame to the primary frame, and to reduce the likelihood of the auxiliary frame from being disengaged from the primary frame if the auxiliary frame is being pulled forward relative to the primary frame.
2. An eyeglass combination according to claim 1 wherein the magnetic material in each stud is a magnet.
3. An eyeglass combination according to claim 2 wherein each of said studs of said primary frame includes a first magnet, and each of said first flanges includes a second magnet for engaging with said first magnet of said stud and for securing said auxiliary frame to said primary frame.
4. An eyeglass combination according to claim 1 wherein said second bridge includes an arm extended over said first bridge of said primary frame, said arm including a rear end having a second flange extended downward for engaging with said first bridge and for securing said auxiliary frame to said primary frame.

5. An eyeglass combination according to claim 4 wherein said first bridge of said primary frame includes a first magnet, and said second flange includes a second magnet for engaging with said first magnet of said first bridge and for securing said auxiliary frame to said primary frame.
6. An eyeglass combination comprising:
a primary frame including a first bridge, said first bridge including a first magnet;
an auxiliary frame for disposing in front of said primary frame, said auxiliary frame including a second bridge having an arm extended rearward toward said primary frame and extended over said first bridge, said arm including a rear end having a flange extended downward for engaging with said first bridge and for securing said auxiliary frame to said primary frame, said flange including a second magnet for engaging with said first magnet and for securing said auxiliary frame to said primary frame; wherein when the auxiliary frame is coupled to the primary frame,
the arm can be supported by the first bridge to prevent the auxiliary frame from moving downward relative to the primary frame; and
the flange is located behind the first bridge to further secure the auxiliary frame to the primary frame, and to reduce the likelihood of the auxiliary frame from being disengaged from the primary frame if the auxiliary frame is being pulled forward relative to the primary frame.
7. An eyeglass combination according to claim 4 wherein said first bridge of said primary frame is made of magnetic material, and said second flange includes a magnet for engaging with said first bridge of magnetic material and for securing said auxiliary frame to said primary frame.
8. An eyeglass combination according to claim 3 wherein said second bridge includes an arm extended over said first bridge of said primary frame, and said arm includes a rear end having a second flange extended downward for engaging with said first bridge and for securing said auxiliary frame to said primary frame.
9. An eyeglass combination according to claim 8 wherein said first bridge of said primary

frame includes a magnet, and said second flange includes a magnet for engaging with the magnet of the first bridge and for securing the auxiliary frame to the primary frame.

10. An eyeglass device for coupling to a primary frame, the primary frame including a first bridge and two sides, each side of the primary frame having a stud, each stud including a magnetic material, the eyeglass device comprising:

an auxiliary frame for disposing in front of the primary frame, the auxiliary frame including a second bridge and two sides each having an extension extended rearward toward the primary frame and extended over one of the studs, each of the extensions including a rear end having a first flange extended downward; and wherein

each of said first flanges includes a magnet for engaging with the magnetic material in each stud and for securing said auxiliary frame to said primary frame; and

when the auxiliary frame is coupled to the primary frame,

the extensions can be supported by the studs to prevent the auxiliary frame from moving downward relative to the primary frame; and

the first flanges are located behind the studs to further secure the auxiliary frame to the primary frame, and to reduce the likelihood of the auxiliary frame from being disengaged from the primary frame if the auxiliary frame is being pulled forward relative to the primary frame.

11. An eyeglass device for coupling to a primary frame, the primary frame including a first bridge, the first bridge including a magnetic material, the eyeglass device comprising:

an auxiliary frame including a second bridge, the second bridge having an arm extended rearward toward said primary frame and extended over said first bridge, said arm including a rear end having a flange extended downward for engaging with said first bridge and for securing said auxiliary frame to said primary frame, said flange including a magnet for engaging with the magnetic material in the first bridge and for securing said auxiliary frame to said primary frame;

wherein when the auxiliary frame is coupled to the primary frame,

the arm can be supported by the first bridge to prevent the auxiliary frame from moving

downward relative to the primary frame; and

the flange is located behind the first bridge to further secure the auxiliary frame to the primary frame, and to reduce the likelihood of the auxiliary frame from being disengaged from the primary frame if the auxiliary frame is being pulled forward relative to the primary frame.

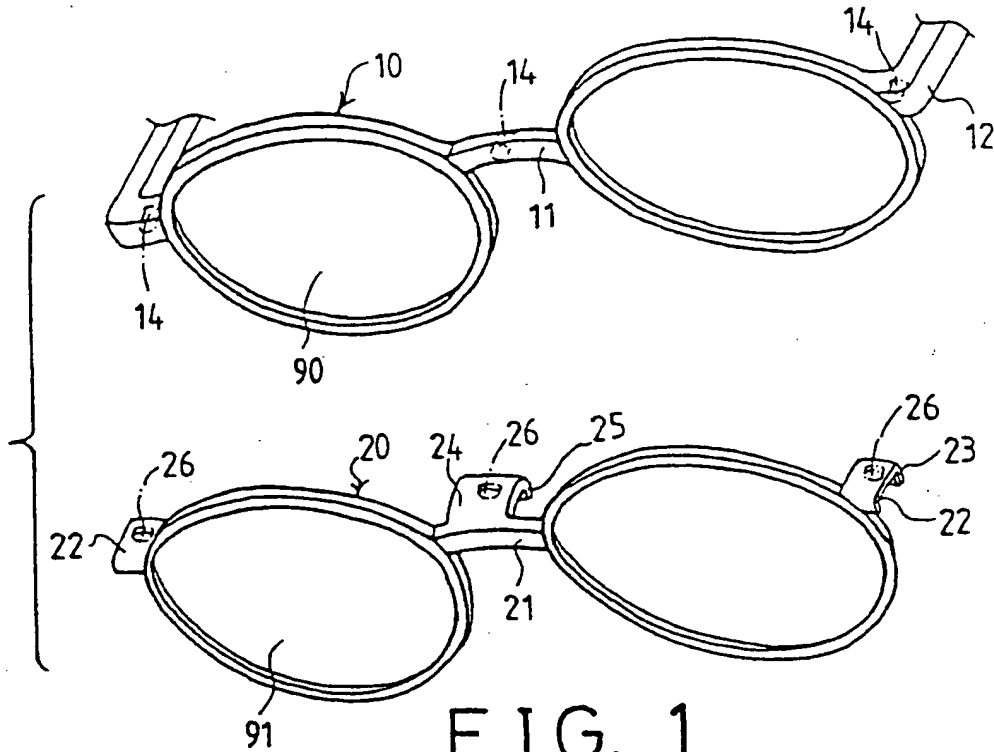


FIG. 1

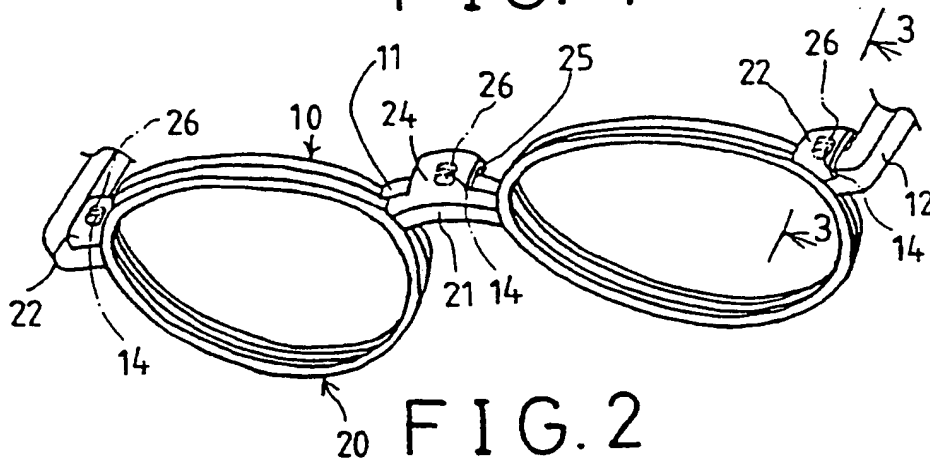


FIG. 2

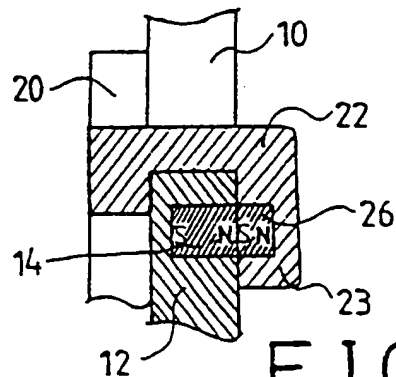


FIG. 3

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.